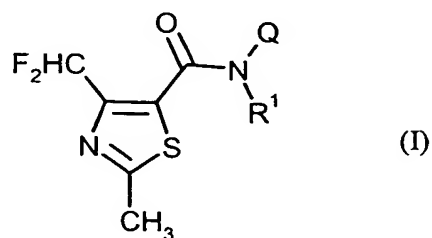


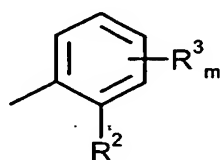
Claims

1. A thiazole(bi)cycloalkylcarboxanilide of the formula (I)

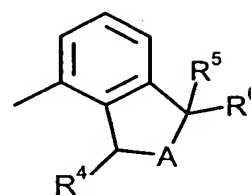


5 in which

Q represents a group



or



10  $R^1$  represents hydrogen,  $C_1$ - $C_8$ -alkyl,  $C_1$ - $C_6$ -alkylsulfinyl,  $C_1$ - $C_6$ -alkylsulfonyl,  $C_1$ - $C_4$ -alkoxy- $C_1$ - $C_4$ -alkyl,  $C_3$ - $C_8$ -cycloalkyl;  $C_1$ - $C_6$ -haloalkyl,  $C_1$ - $C_4$ -haloalkylsulfonyl,  $C_1$ - $C_4$ -haloalkylsulfinyl,  $C_1$ - $C_4$ -haloalkylsulfonyl, halo- $C_1$ - $C_4$ -alkoxy- $C_1$ - $C_4$ -alkyl,  $C_3$ - $C_8$ -halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms;  $-COR^7$ ,  $-CONR^8R^9$  or  $-CH_2NR^{10}R^{11}$ ,

15  $R^2$  represents  $C_3$ - $C_{12}$ -cycloalkyl,  $C_3$ - $C_{12}$ -cycloalkenyl,  $C_6$ - $C_{12}$ -bicycloalkyl or  $C_6$ - $C_{12}$ -bicycloalkenyl, each of which is optionally mono- or polysubstituted by identical or different substituents from the group consisting of halogen, cyano, hydroxyl,  $C_1$ - $C_8$ -alkyl,  $C_1$ - $C_8$ -alkoxy,  $C_1$ - $C_6$ -haloalkyl,  $C_1$ - $C_6$ -haloalkoxy having in each case 1 to 9 fluorine, chlorine and/or bromine atoms,

20  $R^3$  represents fluorine, chlorine, bromine or methyl,

$m$  represents 0, 1, 2, 3 or 4,

$A$  represents O (oxygen) or  $CR^{12}$ ,

$R^4$ ,  $R^5$ ,  $R^6$  and  $R^{12}$  independently of one another represent hydrogen, methyl or ethyl,

25  $R^7$  represents hydrogen,  $C_1$ - $C_8$ -alkyl,  $C_1$ - $C_8$ -alkoxy,  $C_1$ - $C_4$ -alkoxy- $C_1$ - $C_4$ -alkyl,  $C_3$ - $C_8$ -cycloalkyl;  $C_1$ - $C_6$ -haloalkyl,  $C_1$ - $C_6$ -haloalkoxy, halo- $C_1$ - $C_4$ -alkoxy- $C_1$ -

C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub>-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms or 4-(difluoromethyl)-2-methyl-1,3-thiazol-2-yl,

R<sup>8</sup> and R<sup>9</sup> independently of one another represent hydrogen, C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl; C<sub>1</sub>-C<sub>8</sub>-haloalkyl, halo-C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub>-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms,

R<sup>8</sup> and R<sup>9</sup> furthermore together with the nitrogen atom to which they are attached form a saturated heterocycle which is optionally mono- or polysubstituted by identical or different substituents from the group consisting of halogen and C<sub>1</sub>-C<sub>4</sub>-alkyl and which has 5 to 8 ring atoms, where the heterocycle may contain 1 or 2 further nonadjacent heteroatoms from the group consisting of oxygen, sulfur and NR<sup>13</sup>,

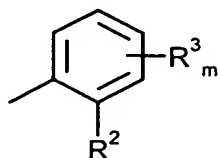
R<sup>10</sup> and R<sup>11</sup> independently of one another represent hydrogen, C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl; C<sub>1</sub>-C<sub>8</sub>-haloalkyl, C<sub>3</sub>-C<sub>8</sub>-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms,

R<sup>10</sup> and R<sup>11</sup> furthermore together with the nitrogen atom to which they are attached form a saturated heterocycle which is optionally mono- or polysubstituted by identical or different substituents from the group consisting of halogen and C<sub>1</sub>-C<sub>4</sub>-alkyl and which has 5 to 8 ring atoms, where the heterocycle may contain 1 or 2 further nonadjacent heteroatoms from the group consisting of oxygen, sulfur and NR<sup>13</sup>,

R<sup>13</sup> represents hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl.

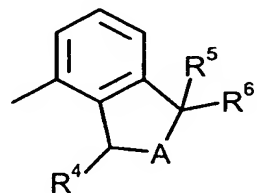
2. The thiazole(bi)cycloalkylcarboxanilide of the formula (I) as claimed in claim 1 in which

Q represents a group



(Q-1)

or



(Q-2)

R<sup>1</sup> represents hydrogen; C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkylsulfinyl, C<sub>1</sub>-C<sub>4</sub>-alkylsulfonyl, C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl; C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-

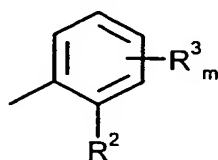
- haloalkylsulfanyl, C<sub>1</sub>-C<sub>4</sub>-haloalkylsulfinyl, C<sub>1</sub>-C<sub>4</sub>-haloalkylsulfonyl, halo-C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms; -COR<sup>7</sup>, -CONR<sup>8</sup>R<sup>9</sup> or -CH<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>,
- 5            R<sup>2</sup> represents C<sub>3</sub>-C<sub>12</sub>-cycloalkyl, C<sub>3</sub>-C<sub>12</sub>-cycloalkenyl, C<sub>6</sub>-C<sub>12</sub>-bicycloalkyl or C<sub>6</sub>-C<sub>12</sub>-bicycloalkenyl, each of which is optionally mono- to tetrasubstituted by identical or different substituents from the group consisting of fluorine, chlorine, bromine, cyano, hydroxyl, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkoxy having in each case
- 10            1 to 9 fluorine, chlorine and/or bromine atoms,
- R<sup>3</sup> represents fluorine, bromine or methyl,
- m represents 0, 1, 2 or 3,
- A represents O (oxygen) or CR<sup>12</sup>,
- R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>12</sup> independently of one another represent hydrogen, methyl or ethyl,
- 15            R<sup>7</sup> represents hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl; C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkoxy, halo-C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms or 4-(difluoromethyl)-2-methyl-1,3-thiazol-2-yl,
- R<sup>8</sup> and R<sup>9</sup> independently of one another represent hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl; C<sub>1</sub>-C<sub>4</sub>-haloalkyl, halo-C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>3</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms,
- 20            R<sup>8</sup> and R<sup>9</sup> furthermore together with the nitrogen atom to which they are attached form a saturated heterocycle which is optionally mono- to tetrasubstituted
- 25            by identical or different substituents from the group consisting of halogen and C<sub>1</sub>-C<sub>4</sub>-alkyl and which has 5 to 8 ring atoms, where the heterocycle may contain 1 or 2 further nonadjacent heteroatoms from the group consisting of oxygen, sulfur and NR<sup>13</sup>,
- R<sup>10</sup> and R<sup>11</sup> independently of one another represent hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl; C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>3</sub>-C<sub>6</sub>-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms,
- 30            R<sup>10</sup> and R<sup>11</sup> furthermore together with the nitrogen atom to which they are attached form a saturated heterocycle which is optionally mono- or polysubstituted
- 35            by identical or different substituents from the group consisting of halogen and C<sub>1</sub>-C<sub>4</sub>-alkyl and which has 5 to 8 ring atoms, where the heterocycle may

contain 1 or 2 further nonadjacent heteroatoms from the group consisting of oxygen, sulfur and NR<sup>12</sup>,

R<sup>13</sup> represents hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl.

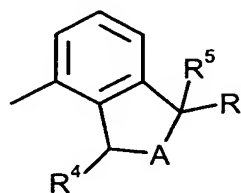
- 5      3.      The thiazole(bi)cycloalkylcarboxanilide of the formula (I) as claimed in claim 1 in which

Q      represents a group



(Q-1)

or



(Q-2)

10      R<sup>1</sup>      represents hydrogen, methyl, ethyl, n- or isopropyl, n-, iso-, sec- or tert-butyl, pentyl or hexyl, methylsulfinyl, ethylsulfinyl, n- or isopropylsulfinyl, n-, iso-, sec- or tert-butylsulfinyl, methylsulfonyl, ethylsulfonyl, n- or isopropylsulfonyl, n-, iso-, sec- or tert-butylsulfonyl, methoxymethyl, methoxyethyl, ethoxymethyl, ethoxyethyl, cyclopropyl, cyclopentyl, cyclohexyl, trifluoromethyl, trichloromethyl, trifluoroethyl, difluoromethylsulfanyl, difluorochloromethylsulfanyl, trifluoromethylsulfanyl, trifluoromethylsulfinyl, trifluoromethylsulfonyl, trifluoromethoxymethyl; -COR<sup>7</sup>, -CONR<sup>8</sup>R<sup>9</sup> or -CH<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>,

15      R<sup>2</sup>      represents C<sub>3</sub>-C<sub>10</sub>-cycloalkyl, C<sub>3</sub>-C<sub>10</sub>-cycloalkenyl, C<sub>6</sub>-C<sub>10</sub>-bicycloalkyl or C<sub>6</sub>-C<sub>10</sub>-bicycloalkenyl, each of which is optionally mono- to trisubstituted by  
20      identical or different substituents from the group consisting of fluorine, chlorine, bromine, cyano, hydroxyl, methyl, ethyl, n- or isopropyl, n-, iso-, sec- or tert-butyl, methoxy, ethoxy, n- or isopropoxy, n-, iso-, sec- or tert-butoxy, trifluoromethyl, difluoromethyl, trichloromethyl, difluorochloromethyl, trifluoromethoxy, difluoromethoxy, trichloromethoxy, difluorochloromethoxy,

25      R<sup>3</sup>      represents fluorine, bromine or methyl,

m      represents 0, 1, 2 or 3,

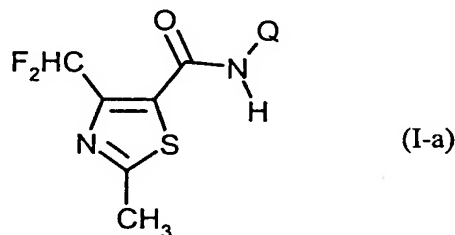
A      represents O (oxygen) or CR<sup>12</sup>,

R<sup>4</sup>      represents methyl or ethyl,

30      R<sup>5</sup> and R<sup>6</sup> each represent methyl,

- $R^7$  represents hydrogen, methyl, ethyl, n- or isopropyl, tert-butyl, methoxy, ethoxy, tert-butoxy, cyclopropyl; trifluoromethyl, trifluoromethoxy or 4-(difluoromethyl)-2-methyl-1,3-thiazol-2-yl,
- $R^8$  and  $R^9$  independently of one another represent hydrogen, methyl, ethyl, n- or isopropyl, n-, iso-, sec- or tert-butyl, methoxymethyl, methoxyethyl, ethoxymethyl, ethoxyethyl, cyclopropyl, cyclopentyl, cyclohexyl; trifluoromethyl, trichloromethyl, trifluoroethyl, trifluoromethoxymethyl,
- $R^8$  and  $R^9$  furthermore together with the nitrogen atom to which they are attached form a saturated heterocycle from the group consisting of morpholine, thiomorpholine and piperazine which is optionally mono- to tetrasubstituted by identical or different substituents from the group consisting of fluorine, chlorine, bromine and methyl, where the piperazine may be substituted on the second nitrogen atom by  $R^{13}$ ,
- $R^{10}$  and  $R^{11}$  independently of one another represent hydrogen, methyl, ethyl, n- or isopropyl, n-, iso-, sec- or tert-butyl, methoxymethyl, methoxyethyl, ethoxymethyl, ethoxyethyl, cyclopropyl, cyclopentyl, cyclohexyl; trifluoromethyl, trichloromethyl, trifluoroethyl, trifluoromethoxymethyl,
- $R^{10}$  and  $R^{11}$  furthermore together with the nitrogen atom to which they are attached form a saturated heterocycle from the group consisting of morpholine, thiomorpholine and piperazine which is optionally mono- to tetrasubstituted by identical or different substituents from the group consisting of fluorine, chlorine, bromine and methyl, where the piperazine may be substituted on the second nitrogen atom by  $R^{13}$ ,
- $R^{12}$  represent hydrogen or methyl,
- $R^{13}$  represents hydrogen, methyl, ethyl, n- or isopropyl, n-, iso-, sec- or tert-butyl.

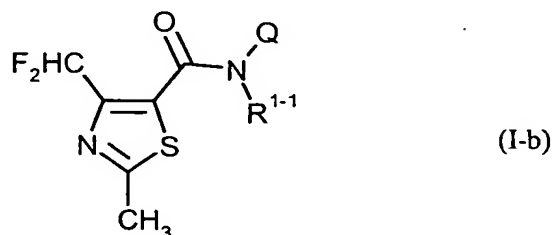
4. A thiazole(bi)cycloalkylcarboxanilide of the formula (I-a)



30 in which

Q is as defined in claim 1.

5. A thiazole(bi)cycloalkylcarboxanilide of the formula (I-b)

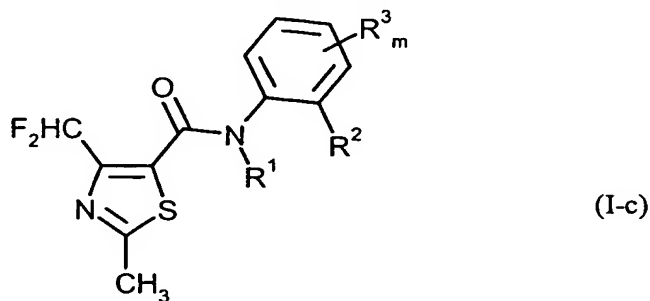


5 in which

Q is as defined in claim 1.

10  $R^{1-1}$  represents  $C_1$ - $C_8$ -alkyl,  $C_1$ - $C_6$ -alkylsulfinyl,  $C_1$ - $C_6$ -alkylsulfonyl,  $C_1$ - $C_4$ -alkoxy- $C_1$ - $C_4$ -alkyl,  $C_3$ - $C_8$ -cycloalkyl;  $C_1$ - $C_6$ -haloalkyl,  $C_1$ - $C_4$ -haloalkylsulfinyl,  $C_1$ - $C_4$ -haloalkylsulfonyl, halo- $C_1$ - $C_4$ -alkoxy- $C_1$ - $C_4$ -alkyl,  $C_3$ - $C_8$ -halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms;  $-COR^7$ ,  $-CONR^8R^9$  or  $-CH_2NR^{10}R^{11}$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are as defined in claim 1.

6. A thiazole(bi)cycloalkylcarboxanilide of the formula (I-c)

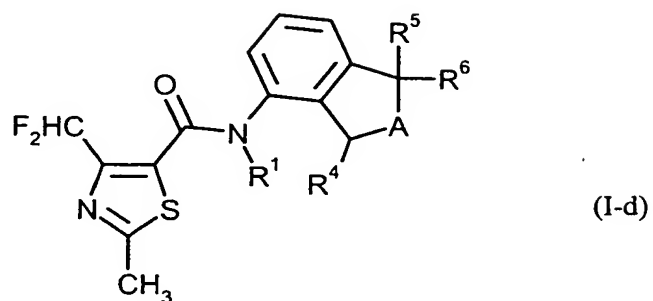


15

in which

$R^1$ ,  $R^2$  and  $R^3$  are as defined in claim 1.

7. A thiazole(bi)cycloalkylcarboxanilide of the formula (I-d)

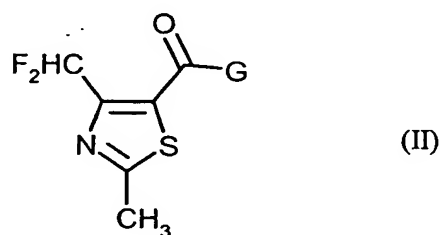


in which

A, R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> are as defined in claim 1.

- 5      8.      A process for preparing thiazole(bi)cycloalkylcarboxanilides of the formula (I) as claimed in claim 1, characterized in that

A)      carboxylic acid derivatives of the formula (II)



10            in which

G      represents halogen, hydroxyl or C<sub>1</sub>-C<sub>6</sub>-alkoxy,

are, in a first step, reacted with aniline derivatives of the formula (III)

15            H<sub>2</sub>N—Q            (III)

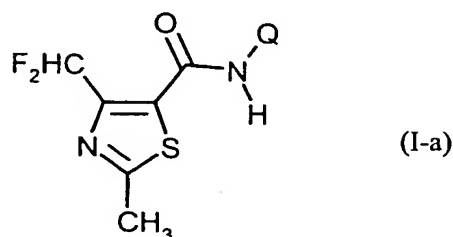
in which

Q      is as defined in claim 1

in the presence of an acid binder and in the presence of a diluent

20

and the resulting products of the formula (I-a)



in which

Q is as defined in claim 1

5 are, if appropriate, reacted in a second step with a halide of the formula (III)



in which

10  $R^{1-1}$  represents  $C_1$ - $C_8$ -alkyl,  $C_1$ - $C_6$ -alkylsulfinyl,  $C_1$ - $C_6$ -alkylsulfonyl,  $C_1$ - $C_4$ -alkoxy- $C_1$ - $C_4$ -alkyl,  $C_3$ - $C_8$ -cycloalkyl;  $C_1$ - $C_6$ -haloalkyl,  $C_1$ - $C_4$ -haloalkylsulfonyl,  $C_1$ - $C_4$ -haloalkylsulfinyl,  $C_1$ - $C_4$ -haloalkylsulfonyl, halo- $C_1$ - $C_4$ -alkoxy- $C_1$ - $C_4$ -alkyl,  $C_3$ - $C_8$ -halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms;  $-COR^7$ ,  $-CONR^8R^9$  or  $-CH_2NR^{10}R^{11}$ ,

15  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are as defined in claim 1 and

X represents chlorine, bromine or iodine,

in the presence of a base and in the presence of a diluent.

- 20 9. A composition for controlling unwanted microorganisms, characterized in that it comprises at least one thiazole(bi)cycloalkylcarboxanilide of the formula (I) as claimed in claim 1, in addition to extenders and/or surfactants.
- 25 10. The use of thiazole(bi)cycloalkylcarboxanilides of the formula (I) as claimed in claim 1 for controlling unwanted microorganisms.
11. A method for controlling unwanted microorganisms, characterized in that thiazole(bi)cycloalkylcarboxanilides of the formula (I) as claimed in claim 1 are applied to the microorganisms and/or their habitat.



12. A process for preparing compositions for controlling unwanted microorganisms, characterized in that thiazole(bi)cycloalkylcarboxanilides of the formula (I) according to claim 1 are mixed with extenders and/or surfactants.